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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/837,787	04/18/2001	Keiji Shioda	14528	9927

7590

10/09/2002

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EXAMINER

ROANE, AARON F

ART UNIT

PAPER NUMBER

3739

DATE MAILED: 10/09/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/837,787

Applicant(s)

SHIODA ET AL.

Examiner

Aaron Roane

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 April 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11, 13, 14, 20-23 and 25 is/are rejected.
- 7) ☐ Claim(s) 12, 15-19 and 24 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 April 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 410, the eyepiece lens is not shown in the drawings. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character “503” has been used to designate both the “tubular insertion member” and the “light source apparatus”. The examiner suggests changing the light source apparatus reference number to --507--. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

The abstract of the disclosure is objected to because the abstract contains legal terminology. On page 134, line 2 the term “means” is used. This is considered legal

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terminology and such terminology may not be included in the abstract. Correction is required.

See MPEP § 608.01(b).

The disclosure is objected to because of the following informalities: the reference number "406" is not defined in the specification.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 7 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Gildenberg (USPN 5,961,456).

Regarding claim 1, Gildenberg discloses claimed invention comprising a microscope image observer (M), a plurality of image forming sections (6, 26 and others, see col. 7, lines 48-58), an image display (55, 56 and D, D1, D2 and D3), a display driver and controller (10).

Regarding claim 2, Gildenberg discloses claimed invention wherein said image display comprises an in-field display (see in order col. 7, lines 42-50, col. 5, lines 38-46 and lines 59-64) and an out-of-field display (see col. 5, lines 38-54 and col. 7, lines 48-58), see figures 1-3, elements 11, 15-17, 30, 31 and D, D1, D2 and D3.

Regarding claim 3, Gildenberg discloses claimed invention wherein in-field display comprises a small screen portion cut from the observation image field of microscope, see col. 4, lines 33-62 and figure 1, elements 11, 15, 16 and D and finally col. 6, lines 42-50.

Regarding claim 4, Gildenberg discloses claimed invention wherein in-field display comprises a superposition section, see col. 5, lines 38-46 and col. 3, lines 58-66 and figure 1, elements 11, 15 and 16 and finally col. 6, lines 42-50.

Regarding claim 7, Gildenberg discloses claimed invention wherein a said display driver comprises an image selector (10), a display controller (10) and an operation input section (10), see col. 3, lines 35-57.

Regarding claim 25, Gildenberg discloses claimed invention wherein a said out-of-field display is disconnectably connected. Since the instrument or system disclosed is made of individual instruments, the out-of-field display must be disconnectably connected, see col. 5, lines 9-19.

Claim 1, 7 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Miyagi (USPN 5,601,549).

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Regarding claim 1, Miyagi discloses claimed invention comprising a microscope image observer (10), a plurality of image forming sections (20, 28a, 28b and 28c), an image display (15 and 45), a display driver and controller (25), see col. 2, lines 8-68 and figure 1.

Regarding claim 7, Miyagi discloses claimed invention wherein the display driver further comprises an image selector (25) see col. 2, lines 54-68 and col. 3, lines 1-3, a display controller (30 and 45) see col. 2, lines 36-53 and col. 4, lines 4-13, and an operation input section (push button, part of 21 not shown), see col. 3, lines 8-68 and figure 1.

Regarding claim 11, Miyagi discloses claimed invention wherein the image forming section further comprises a nerve monitor (28c) and a waveform monitor means (25 and 30), see col. 2, lines 54-68 and col. 3, lines 1-3 and figure 1.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 5, 6, 8, 9, 13 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gildenberg (USPN 5,961,456) in view of Sklar et al. (USPN 5,098,426).

Regarding claims 5 and 6, Gildenberg discloses claimed invention except for the small screen in-field display and providing for more than two distinct images (or one superposition of two images) to be displayed at once, see col. 5, lines 38-58. Sklar et al. teach the use of a user interface video screen that may be divided into four parts, one image per part, see col. 3, lines 28-68, col. 4, lines 1-11, all of cols 13 and 14, col. 15, lines 1-10 and figures 1 and 2. Therefore, at the time of the invention, it would have been obvious to one of ordinary skill in the art to modify the invention of Gildenberg, as taught by Sklar et al., to include a small screen in-field display and provide for more images to be displayed from up to four of the plurality of image forming sections in order to provide an imaging system that enables the user to have before her/him abundant visual information on the display during the operation of the surgical microscope without unduly burdening the operator.

Regarding claims 8 and 9, Gildenberg discloses claimed invention except an automatic controller, an image data forming section and an operation information data forming section, see col. 5, lines 38-58. Sklar et al. teach the use of an automatic controller, an image data forming section and an operation information data forming section (element 10 in figure 1), see col. 13, lines 51-68 and col. 14, lines 1-68 and figure 2. Therefore, at the time of the invention, it would have been obvious to one of ordinary skill in the art

to modify the invention of Gildenberg, as taught by Shioda et al., to include the use of an automatic controller, an image data forming section and an operation information data forming section in order to provide the user with an abundant amount of visual information in the form of a variety of images and textual data on the display during the operation.

Regarding claim 13, Gildenberg discloses claimed invention except for an image forming menu section and an image selection menu section, see col. 5, lines 38-58. Sklar et al. teach the use of a vertical strip (39) of symbols on the display screen (24) that “comprise a menu of selections for the surgeon”, see col. 13, lines 56-68 and col. 14, lines 1-17 and figure 2. Therefore, at the time of the invention, it would have been obvious to one of ordinary skill in the art to modify the invention of Gildenberg, as taught by Sklar et al., to include an image forming menu section and an image selection menu section in order to provide the surgeon access to visual and other relevant information during the operation of the surgical microscope.

Regarding claim 23, Gildenberg discloses claimed invention wherein the image forming section displays an ultrasonic probe image (11) and said navigation image (15) with progression of operation is used, see col. 5, lines 38-46, col. 7, lines 48-58 and figures 1 and 2. The image display during the progression of the operation is inherently accomplished by the use of by the imaging system (I) and the video controller (25) that provides a “current actual” image (11), see col. 3, lines 12-57. The recitation that “the

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image forming displays an image of an ultrasonic probe and said navigation image” is intended use, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gildenberg (USPN 5,961,456) in view of Sklar et al. (USPN 5,098,426) in further view of Shioda et al. (USPN 6,081,371).

Regarding claim 10, Gildenberg discloses claimed invention except for the small screen in-field display and providing for more than two distinct images (or one superposition of two images) to be displayed at once. Gildenberg also fails to disclose an XY direction operation switch, an image selection switch and a display selection switch, see col. 5, lines 38-58. Sklar et al. teach the use of a user interface video screen that may be divided into four parts, one image per part, see col. 3, lines 28-68, col. 4, lines 1-11, all of cols 13 and 14, col. 15, lines 1-10 and figures 1 and 2. Shioda et al. teach the use of an XY direction operation switch, see figure 16A-C, element F and col. 18, lines 56-67 and col. 19, lines 1-20. Therefore, at the time of the invention, it would have been obvious to one of ordinary skill in the art to modify the invention of Gildenberg, as taught by Sklar et al., to include the use of a small screen in-field display and provide for more images to be displayed from up to four of the plurality of image forming sections in order to provide

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an imaging system that enables the user to have before her/him abundant visual information on the display, and as further taught by Shioda et al., to include an XY direction operation switch for the small screen in-field display in order to provide a visual field adjusting mechanism, changing the size, shape and position of the small screen in-field display that provides more versatility for viewing the necessary images during the operation of the surgical microscope without unduly burdening the operator.

Claims 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gildenberg (USPN 5,961,456) in view of Kegelman et al. (USPN 4,958,932) in further view of Okada (USPN 4,660,982).

Regarding claims 20-22, Gildenberg discloses claimed invention except for an in-field scale display, a scale display that overlays and displays in the microscope image observer and finally wherein the scale display comprises a stereoscopic index display, see col. 5, lines 38-58. Kegelman et al. teach the use of an apparatus that measures distances and generates a scale, see col. 1, lines 6-9 and col. 9, lines 3-37 and see figures 5 and 13. Okada teach the use of an optical adaptor (21) that uses a multiple stereoscopic index measuring technique, see figures 2, 3, 18-23, elements 1, 21, 72, 72", 82 and 82" and col.9, lines 62-68, col. 10, lines 1-41. Therefore, at the time of the invention, it would have been obvious to one of ordinary skill in the art to modify the invention of Gildenberg, as taught by Kegelman et al., use of an apparatus that measures distances and generates a scale, in order to provide the surgeon with an accurate size of the tissue treatment area, and as further taught by Okada to use an optical adaptor (21) that uses a

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multiple stereoscopic index measuring technique in order to provide the apparatus and surgeon with more flexible and improved measuring capabilities and to provide this at a lower cost.

Allowable Subject Matter

Claims 12, 15-19 and 24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following references may be useful. Kami et al. in (USPN 5,339,799) and Mizuno et al. (USPN 5,876,325) disclose medical systems comprising manipulators, endoscopes, microscopes, screen displays, head mounted display goggles and a foot switch. Taylor et al. (USPN 5,957,832) disclose a system comprising a dual eyepiece microscope, a microscope holder and a display screen. Kalfas et al. (USPN 5,732,703) disclose a system for guiding and tracking a endoscopic tool during surgery comprising CCD cameras, infrared light emitters, screen displays and a workstation computer.

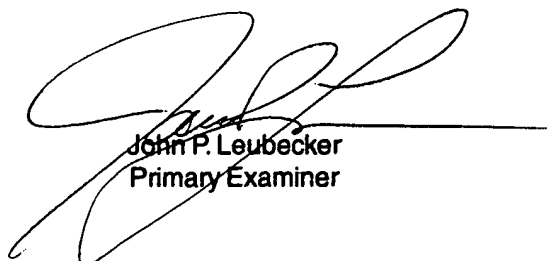
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron Roane whose telephone number is (703) 305-7377. The examiner can normally be reached on 9am - 5pm, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Linda Dvorak can be reached on (703) 308-0994. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-9272 for regular communications and (703) 872-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0858.

A.R. *A.R.*
October 2, 2002


John P. Leubecker
Primary Examiner